

Afsaneh Hekmat

PhD student of School of Housing Building & Planning, USM, Malaysia

Email: afsanehekmat@yahoo.com

Main Supervisor:

Associate Professor, Ku Azhar bin Ku Hassan

Second International Conference on Built Environment in Developing Countries.

THE COMPARISON BETWEEN TRADITIONAL AND NEW DOMESTIC ARCHITECTURE IN KERMAN, IRAN

Abstract

Traditional architecture introduces the best ways of using environmental energies and adapting with nature. On the other hand new architecture is considered financial goals, follow new techniques and materials and the most using of high-priced lands.

This article studies on characteristics of traditional domestic architecture and compares it with its new residential architecture in Kerman, a city of Iran.

Accordingly the comparison is based on some main subjects such as house plans, construction Techniques, materials used, identities and styles of architecture. The article has also referred to the relationship between architecture and culture and climate in both traditional and new houses.

Then the problem of two fabric architecture has been mentioned. Finally it has some suggestion about design of future residential buildings.

Key words:

Architecture, climate, culture, domestic, environmental, Kerman, traditional

Contents:

- Introduction
- Old City
- To Describe an Old House
- The Middle Age Houses
- The New Age Houses
- Culture
- Color

- Conclusion
- Keywords
- References

Introduction

"The city of Kerman is located in the south-east of the country; just over a thousand kilometers from Tehran. The climate is temperate, although the amount of precipitation is comparatively low. Being a historical city, it was the national capital in different periods. There are a number of monuments dating back to the Sassanian era. The Ardeshir Castle and Dokhtar Castle are notable among them. In the Safavid period, the governor of Kerman, Ganj Ali Khan, built several notable buildings, most of which have survived the time and now are called the "Ganj Ali Khan Complex." The old architecture of Kerman, the important features of which are high walls, narrow alleys and domed roofs is of considerable attraction."⁽¹⁾

Kerman is a city that located in the edge of desert that its history returns to thousands years before Christ. *"Habitation in the land of Kerman dates back to the fifth millennium BC."*⁽²⁾

The modification of housing in Kerman is not an evolution. If the development of traditional architecture follows, the result will be something completely different with today of Kerman.

In general the residence fabric of Kerman has three main types and some exceptions which have formed in ages. This article refers to the main types. The principal differences between these parts are in the style of architecture and the material of buildings both. The first one is old fabric that was formed along centuries and extended until 50-60 years ago. It has traditional architecture and materials. The middle age fabric was found around 55 years ago and extended until last couple of decades. It was the first sign of modern architecture and has two different types which the plan in both is common but the materials are different. It is clear that new material has new construction and vice versa. The new fabric residential buildings are found more than 20 years ago and are continued until now. The new part has been built by modern architecture and materials.

Old City

The water of city was provided by kareezes. Kareeze is a style of bringing water out of the ground. *"A kareez is a water management system used to provide a reliable supply of water to human settlements or for irrigation in hot, arid and semi-arid climates. The technology is known to have developed in ancient Persia, and then spread to other cultures, especially after the Muslim conquests, to the Iberian Peninsula, southern Italy and North Africa."*⁽³⁾ Kerman had several kareez that flowed on the city and made the public reservoirs full of water. Some of the houses had their own reservoirs that became full with a particular plan by the flowed water. Some of houses had well water.

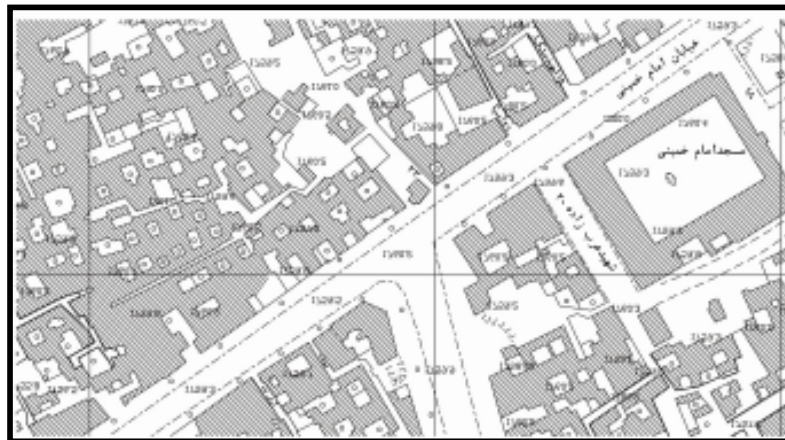
The baths were public and have remained many of them as cultural heritage in city. (The oldest bath has remained since 1000 years ago and the most famous one belongs to 400 years ago.) Rich people had private bath.

The main direction for buildings in Kerman is Kiblah and this direction has considered yet, even though this side has to be change for using less electrical energy.

Kerman used to have some semi public spaces which are called “neighbourhood unit”. Neighbourhood unit was a complex of houses which were near to each other and often had a common entrance. It was like a private small alley or one polygon as a vestibule (Hashti) which displayed the entrance of each house that was a member of neighbourhood unit. These members had strong and special relationships. They were responsible of each other. They had some common benefits. For example something their water source was shared. Or their women apportioned in cooking bread. They needed to each other because the shops and their goods on the city were so limited. Some of them had common transportation too. Unfortunately the neighbourhood units have not remained anymore.

All the streets were covered by flagstone or pounded soil. The façade of old alleys in Kerman is completely homogeneous. All the materials, in fact domestic materials, were covered by mud-straw mixed. So the external walls of houses are hidden and whole of the alley had the same surface. All the passageways had their organic winding shapes and the main ways were a bit wider than an alley. Transportation was done by carriage and coach. The first cars entered to Iran in 1900. After that cities were changed one by one and initial streets were appeared. In Kerman the main street cut the old fabric before 1940 and after that the second street was built in the next decade.

“There are more than 30 urban divisions in Kerman. The division is proof of antiquity of the province in vicinity of the desert.”⁽⁴⁾



One part of Kerman city, old fabric

To Describe an Old House

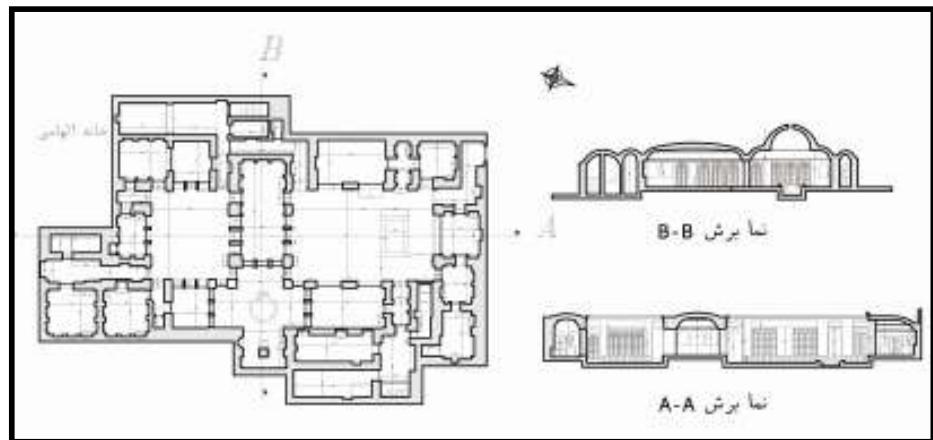
The age of these houses is 60 years or more. In special case an old house was located in one neighbourhood unit. It has one specified entrance and a door which had two knockers with different sounds for men and women. Each gender knocked the own knocker. After entrance normally there was a bending passageway that reached to the main yard. Yard was often deep and had small garden or small pool or usually both. The depth of courtyard and trees and water kept its weather cool and fresh. There were at least 2 sides of yard building that one side was sunnier. Some houses had more buildings and yards. The residents changed their rooms in the different seasons. Each side had several rooms and sometimes in two rows. The first row could give light from the yard. But the second row, if there was, had just a sky light and used as a store or nook. The building was higher than yard and there were many staircases here and there. Normally the rooms were related with each other directly or by a strip.

All the rooms had in each side a few recess and at least two doors. Special rooms had more doors and their name's belongs to them, for example 3 doors room is a room with 3 doors in the main yard side. The other numbers of doors is 5 and 7.

"Ivan" was another member of many houses. It had columns and arches and kepted the summer used part in shadow. But the best part of old houses in summers was wind catcher that made the weather fresh, wet and cool. *"A wind-catcher (badgir) is simply a ventilating shaft which projects above the roof of a building and provides it with air-conditioning of a most effective kind. Wind-catchers are among the most spectacular and best-known elements of Persian architecture, yet it is surprising how little information exists about the detail of their interior design."*⁽⁵⁾ Unfortunately the main parts of wind catchers were destroyed and there are a few of them in all over of Kerman.

The kitchen (Matbakh) was on the one corner and had a store for firewood. (Wood was the most important fuel in the past times. But now all of the houses have gas pipe). Normally the kitchen was related with yard by a strip too. The toilet (Mostarah, restroom) was located at the darkest part of home and always had a dark path for move flies away.

Big houses had more than one yard. These yards allowed to the women that keep their private open space. All openings were into the yards. These houses are named "introverted". This matter is one of the most important differences between old and new houses in Kerman. Most of the new houses are not introverted anymore.



One sample of a rich house in old fabric of Kerman

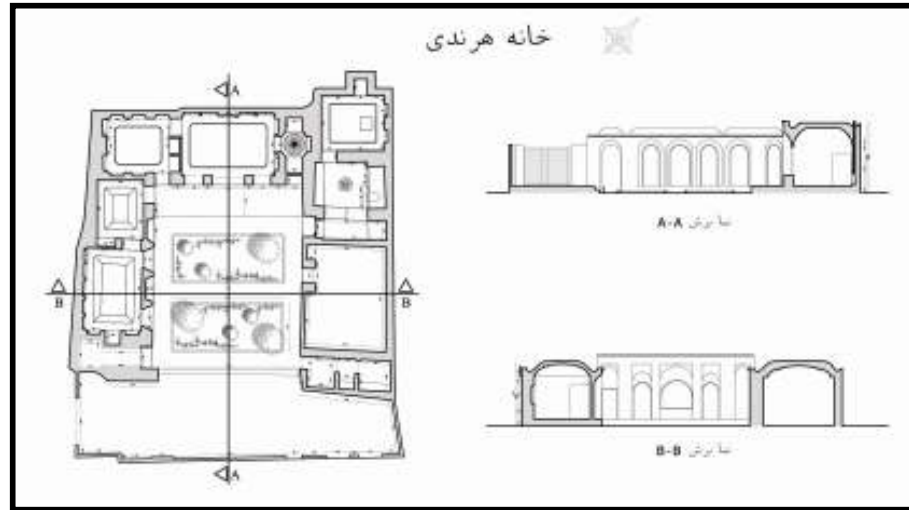
The old houses had built by domestic materials and in old styles. The main material was soil that had changed into adobe and brick. The walls were wide for holding the cupolas. The openings were smaller for keeping the inter temperature and the sunlight controlled better than the new one.

Some houses had an especial space for keeping domestic animals. They used the animal for caring them. They kept chicken too.

Although the rich houses had tow storeys or more, the one-storey houses are more than the others at the old fabric.

To study of designing shows that symmetry, equilibrium and balance was very important and designers had tried to create symmetrical spaces for living comfortable.

Although unfortunately the main parts of old fabric have been destroyed and there are just a few of houses here and there in old fabric, fortunately the most beautiful houses were stronger and some of them were saved by owners or government.



A sample of usual house in old fabric of Kerman

The Middle Age Houses

As it was mentioned before, the middle age houses were found as a sign of modern architecture around 55 years old in Kerman. In Iran it had been happened before. *“Modern architecture was introduced in Iran 60 years ago and we are now witnessing the fourth generation of Iranian architects. With architecture how a productive activity, we should admit that considerable progress has been made in this period. Today, most buildings, at least from a bureaucratic perspective, are “engineer-built” and the number of graduates and students of architecture has increased. The Construction Engineering Association has many members and large construction engineering consulting firms have been established. However from an artistic perspective, and especially if we expect our building activity to signify as well a cultural advance, we cannot cite a particular work as a brilliant example from recent decades. In architecture, cultural progress is not synonymous with the number of buildings constructed or the changes in tastes and trends that are always manifest among the younger generation of architects.”* (Kamran Afshar Naderi 2003). These houses are two types which the plan in both is common but the materials are different. The plan is a large hall which all rooms are arranged around it. Bedrooms, guest room, kitchen, bathroom and store connect directly with hall. The most activities happen in the hall and often TV is in the hall too. The guest room is a big salon that is decorated more beautiful than the other parts and is always ready for entertaining of guests. This salon is completely separated from the other parts of house. It means the hall and rooms are private places and only the family members and close relatives can be there.

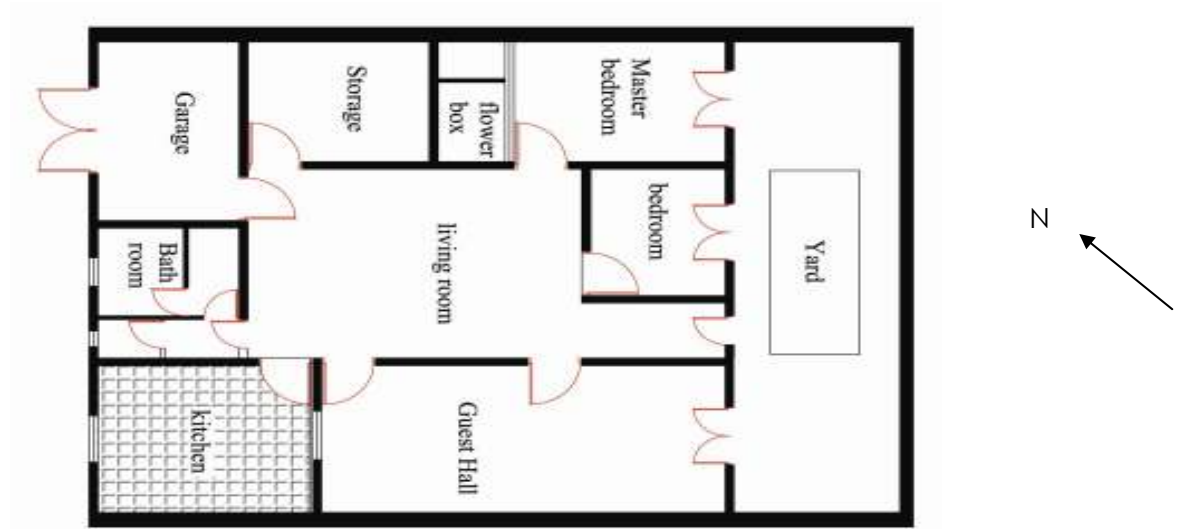
The middle age houses were built by two different materials. At first they were created by domestic material and in the same style of old fabric. The walls were thick for keeping the cupolas. The most common material is brick. These houses act very weak in earthquake which is a usual danger in Kerman. After that the domestic materials changed into newer one. This type of houses especially by newer material and with flat beamed ceiling, instead of dome, is more common in Kerman. They did not have column and the load bearing walls held the beamed ceilings. Some of them had vertical reinforced concrete brace for making them stronger and actually they are very strong too. They have one or two storey.

These houses have at least three rooms, guest room, kitchen, store and bathroom. They were built just in one side and have got their light from north and south sides. The yard has often located in the south side of site and north side or a part of north side is open space. The buildings are side by side in west and east edges. The openings are located in south and north sides. (In fact they are in north-west and south-east). Most of the alleys and streets are checkered and the houses get light from them.

This fabric has the first houses in Kerman that did not the signs of introversion. Actually the modern houses in Kerman are not “extroverted” like north of Iran. But they get light from public places and they do not have private quarter like old houses.

After appearance of modern architecture the surface of alleys has changed. The edge of houses was come into view and the façade of external walls with different materials.

The second form of middle edge houses were built by newer materials.



A sample of middle age house in Kerman

The New Age Houses

The new houses in Iran were founded at first in Tehran around 30 years ago. After that big cities have followed this trend one by one, and then in Kerman these buildings were appeared more than 20 years ago. The new houses are similar to each other in whole of Iran. Unfortunately they are not belonging to cities anymore. The material is similar too. Domestic materials are forgotten and all materials are independent of the lands. These houses are appeared as apartment more than the other types. The openings are each side that they have open space. In fact they are careless in the climate and direction of layout. Using the land as much as possible is the most important factor on them. The style of construction depends on the price and the strength of materials. The south side has still been the best part of site for yard. But if it wastes the land, it will be turned to the other sides. Some houses which are not enough large, even do not have yard. The houses and apartments are become smaller and the buildings are become taller.

Culture

In Iran there has always been a strong relationship between architecture and culture. In fact culture is the most important reason for difference of style of architecture in similar climates and also the similarity of architecture in different climates.

Before Islam the main religion of Iran was Zoroastrianism. In that time the ladies took part in all activities. After Islam the culture was changed little by little. The rulers kept the women away of social activities and forced them to stay at home most of the time. The houses became introverted and the ladies were hidden there. The other reason was the living style. Some families were so big because the sons stayed at the same houses with their parents after marriage. At that time the relationship between inside and outside of houses was limited for a long time. The neighbourhood units were founded strongly and product of handicrafts were extended. There was a strong relationship in neighbourhood units and houses between their residents. They needed to each other because they had to prepare many things for their life. Before modern architecture, culture had always been strong effects to architecture especially for residential buildings. Everything in architecture was defined by local architects who considered to culture and domestic materials and climate.

In Pahlavi dynasty the rule of Iran was changed in following the western world. The ladies could be more active and getting job. Then the architecture was changed too little by little. On the other hand the style of living was turned into single families. The shops were extends inside the city and people could find their requirements easily. The neighbourhood units were forgotten and the human relationship was limited. Afterwards the population get more and the price of land and new materials were created appropriate conditions for increasing the storied and limited in area. At the same time the furniture turned into the smaller sized.

The first modern houses were made in different style of cultural architecture. The people did not turn them into their culture. They adapted their culture with the new architecture. After that this trend happened more and more. The people ignore their culture in their architecture. Then they have found themselves not satisfied and disappointed in their homes.

“Iranian architects in the ancient Achaemenid period as well as in the recent Qajar period have demonstrated how elements from foreign architectural influences can be employed to create works that are in complete harmony with the Iranian spirit and culture, Nowadays, however, in using elements from “traditional” architecture, the resulting buildings are completely incongruous with the spirit and culture of our nation.” (Kamran Afshar Naderi 2003)

But it will be totally unfair if we believe this trend will be extending in the future. Recently the number of architects who are worried about Persian architecture and the distance between that and culture has increased. It has been many seminars and deliberations about this disaster in Persian architecture. *“In the last few years in Iran & worldwide we happen to see projects that have cleverly combined local culture and today’s contemporary architecture and therefore have raised the interest of critics. Designs that in one way focus on the international / regional debate and also tend to respect in most aspects a certain culture, as well as complying with contemporary trends.*

These architects, considered as Regionalist critics offer a different view. They have freed themselves of constraints that vernacular elements of architecture impose.

These architects consider their designs are based on different cultural and social footprints found in literature or other mottoes.” (Memar magazine, number of 25, page 36), (Negar Hakim, 2004)

Now some modern houses have appeared in Kerman which considered to the historical architecture. Some architects found out the symbols of Persian architecture and imitated them in new buildings such as arcs, niches, swastika and glazing. Sometimes they use the domestic materials as decorating which are framed by the modern materials like valuable tableaux inside or outside the buildings. This kind of decorative is taken into consideration by most of the people. It seems the residential buildings need to be more Iranian mixture of traditional memories. The residences of especially modern buildings have complained about boring of their houses.

Color

Color was as same as importance of light in traditional architecture of Kerman. Most of the opening which lead light was colored even in a small part. Color was applied both for architectural ornaments and functional reasons. The past generations used some colored materials such as glasses for getting light openings especially in sash windows. It caused various lights in internal spaces which had harmony and changed with move of sunlight. Then the inside of rooms was always beautiful and exciting. Some researchers believe these color lights keep also away flies and mosquitoes.

The other colored materials in usual were used as decoration of buildings like tile, brick, marble and so on. Some colors are symbolic and representative of Persian ritual. *“In the same way that light has always been important in Persian architecture, a sense of color and its harmony, which is of course directly related to the awareness of the role and significance of light, has dominated all the arts of Persia.”* (Seyyed Hossein Nasr, 1971)

This is interesting that some colors have registered as Persian colors. ISCC-NBS 1955

*“**Persian blue** (not to be confused with prussian blue) comes in three shades: **Persian blue** proper-a bright medium blue; **medium Persian blue** (a medium slightly grayish blue that is slightly indigoish); and a kind of dark blue that is much closer to indigo; this darker shade of **Persian blue** is referred to as **Persian indigo** or **dark Persian blue**.). Other colors associated with Persian include **Persian red** and **Persian green**.”* ⁽⁶⁾

When the modern architecture was started, the using of colored materials changed. The painted materials did not employ for functional anymore and using of symbolic materials was limited. Now the colors are as same as other cities or countries just for decoration.

Conclusion

Comparing between traditional and new architecture is related on consider to all Persian and domestic factors. This article is just about the most important of these factors. There are some other reasons such as light, water, surface, space, garden, shape and form that can be representatives of Iranian architecture. Actually this article is not that extended for explanation all of them.

In general Persian traditional architecture has some special characters which have to be introduced for adapting as patterns of Persian new architecture.

Key Words

Architecture, Color, Culture, Domestic, House, Kerman, Persian, Traditional

References

1. Irano-British Chamber of Commerce, Industries and Mines, 2002
2. Kerman, Published by: Gooya House of Culture & Art, Tehran, Iran, 2005
3. Transmission of Islamic Technology, Qanat (Kareez), 2007
4. Kermanology Center, The province of Kerman at a Glance, 5th Edition, Kerman, Iran, 2007
5. R. W. Ferrier, The Arts of Persia, Yale University Press, London, 1989
6. Marez and Paul, A Dictionary of Color, New York, 1930